

as many of the fire-plugs were laid in and on a level with the street water-channels or gutters, sewage and other objectionable matters ran down into the empty pipes, and so contaminated the water used for drinking and domestic purposes. To remedy, or remove, the great danger of spreading disease by the use of such foul water, Mr. A. K. Smith's invention consists of applying a coiled or other spring of steel, brass, or other elastic substance, for effectually closing the orifice, at low levels, against the admission of sewage and other impurities during the absence of internal pressure. The author also suggested that in all lines of main where they were used, there should be at the highest level an ordinary air-valve, so that the air could escape when the pipes were filling with water; such air-valve or ordinary hydrant to be kept at a higher level, so that no fluid or solid matter could enter the orifice.

The Society learns with satisfaction that since Mr. Smith has called public attention to the danger arising from the contamination of the water in the street-mains by sewage entering at the fire-plugs, the Government has removed such fire-plugs from the bottom of the channels, to a position more distant, and higher, to obviate the danger pointed out.

ART. XLI.—*Notes on Sirius and its Companion Stars.*
(*Great Telescope.*) BY F. MACGEORGE, ESQ.

[Read 10th June, 1872.]

Mr. President and Gentlemen,—Last year was brought before you the fact that some minute stars had been observed in the optical vicinity of Sirius, and it has been thought that it may interest you to hear the detailed notes of these and subsequent observations of this star.

First will be read two notes of observation of Mr. Le Sueur, made while the mirror was not in so good working order as it is at present.

1869, *Dec. 6th.*—"Sirius very unsteady. Looked for Lassel's companion. Can see nothing at all. Do not know where companion is.

"*Spectrum: F, C,* and very fine lines too unsteady. *F* is very conspicuous, and remains clearly visible by the sky glare, when the star is removed from the slit."

Fig. 1.

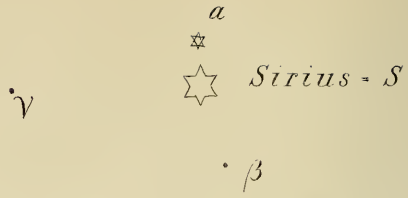


Fig. 2

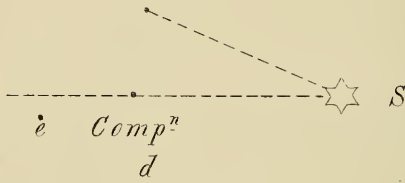


Fig. 3

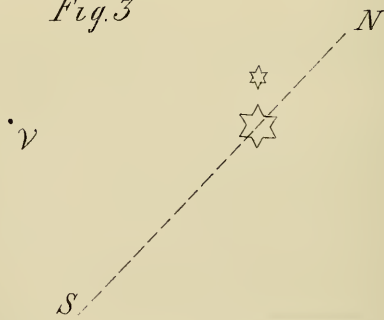


Fig. 4.

